ANTIHEPATITIS "C" ANTIBODIES STUDY IN PROFESSIONAL AND VOLUNTEER BLOOD DONORS

MUGHIS UDDIN AHMED, *MANSOOR UL AZIZ

ABSTRACT

A study was conducted in total 1410 cases belong to two groups. Professional blood donors (PBD) in which there were 820 individuals, whereas in volunteer blood donors (VBD) there were 590 individuals. All were tested for acute hepatitis "C" antibodies by ELISA (Enzyme Linked Immuno Sorbent Assay). It was found out from this study that out of total screened cases 6.8% were seropositive. In PBD group there 11.0% seropositive cases as compared to 1.0% seropositive in VBD. This study concluded with recommendation of screening of every single blood bag before transfusion and dissemination preventive measures through media.

KEYWORDS

Hepatitis "C", Donor, ELISA.

INTRODUCTION

The Hepatitis is a major health problem throughout world wide. Viral hepatitis is a great challenge to health of people around globe. Viral hepatitis includes hepatitis A, B, C, D, E and G viruses[1,2,3]. Hepatitis B, C and G are transmitted parenterally most commonly as result of blood to blood contact including injury to with sharp instruments and sharing of needle or by sexual contact and from mother to child.

Hepatitis "C" virus (HCV) is a member of the flavivirus family. It is an enveloped virion containing a genome of single stranded positive-polarity RNA. HCV is found at increase and surpassing Hepatitis "B" Virus (HBV). Human are the reservoir of virus [6,7] This is the most prevalence blood-borne pathogen in the United States (WHO report —> 0.5 to > 10% prevalence). More than 170 million people worldwide are now estimated to suffer from the disease Four million people in United States infected with HCV. In Pakistan prevalence is 4–7% of population studied[6,7,8,9].

Acute hepatitis account 20% in HCV infection, chronic hepatitis cases are 70% and 20-30% reached to end stage liver disease. It is now calculated that 80% of the acutely infected patients progress to chronic hepatitis and 20% of these chronic patients develop cirrhosis as well as 15% cirrhosis liver cases will develop hepatocellular carcinoma[10,11,12].

MATERIAL AND METHODS

This study was conducted from 1997 to March 2000 on PBD and VBD from different places (Majority of cases from Abbasi Shaheed Hospital Blood Banks). A total number of 1410 individuals were included in this study. In PBD group there were 820 and 590 were in VBD group. Blood of all were collected aseptically. Sera were separated from blood and stored at -20°C till processed for analysis. All samples were tested in duplicate by ELISA (Enzyme Immuno Sorbent Assay). These results were cross checked in Japan by ELISA and PCR.

OBSERVATION AND RESULTS

It can be seen from table 1 that 6.8% individu-

Professor & Head Department of Pathology,
Karachi Medical & Dental College and
Abbasi Shaheed Hospital, Karachi

* Assistant Prof. (Dental)
Karachi Medical & Dental College and
Abbasi Shaheed Hospital, Karachi

als are seropositive for HCV by ELISA from total cases screened. In PBD group seropositivity is upto 11.0% whereas in VBD it is upto 1.0%. All positive cases were cross checked.

ANTI HCV ANTIBODIES SEROPOSITIVE CASE

CATEGORY OF DONORS	TOTAL NO. OF CASES SCREENED	HCV POSITIVE CASES
PBD	820	90 (11.0)
VBD	590	06 (1.0)
TOTAL	1410	96 (6.8)

P < 0.05 Significant
Figures in parenthesis is percentage
PBD - Professional Blood Donors
VBD - Volunteer Blood Donors

DISCUSSION

HCV infection is most common cause of chronic hepatitis, liver cirrhosis and hepatocellular carcinoma round the globe. It is responsible for substantial number of morbidities and mortalities world wide. In high risk group like PBD seropositivity is quite high (11.0%) as compared to VBD (1.0%). The P value is less than 0.05 which is quite significant. The problem is that these PBD donate blood at many places and if any blood bank is not screening each blood bag as per WHO recommendation than chance of transmission of this disease increase many fold in population. This issue need to address at level.

CONCLUSION

From this study following conclusion was drawn:

1. Screening of all blood bags before transfusion as per WHO recommendation.
2. PBD should be stopped or discouraged.
3. By use of mass media highlighting preventive measures against HCV.

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REFERENCES

1. Seeger C Mason WS. Hepatitis B Virus Biology. Micro Mol Niol Rev 2000;64(1): 51-68.
2. Kamal G. I. Pathogenic features of chronic hepatitis. Am 3 Clin. Pathol. 2000;113:40-55.
3. Steffen T, Gutzwiller F. Hepatitis B and C in intravenous drug abusers in Switzerland. Schweiz Rundsh Med Orax 1999;88(47): 1937-44.
4. Goob Tc, Yamada SM, Newman RE, Cashman TM, Blood borne exposures at a United States Arm Center. Appl Occup Environ Hyg 1999; 14(1):20-5.
5. Miller MA, Pisani E. The cost of unsafe injections. Bull W H Or 1999; 77(10): 808-11.
6. Alter Mi, Margolis HS, Krawezynski K, et al. The natural history of community acquired hepatitis C in the United States. N Eng 3 Med 1992; 327: 1899-905.
7. Main 3. Hepatitis C - clinical aspects. 3 Infect 1995; 30:103-6.
8. Kuhul P, Seidal 5, Stargel W, et al. Antibody to hepatitis C virus in German blood donors. Lancet 1989; 234.
9. Saeed AA, Al-Adwawi AA, Al-Rashid H, et al. Hepatitis C virus infection in Egyptian blood donors in Riyadh. Lancet 1991; 338:459-60.
10. Malik IA, Khan SA, Tariq WUZ. Hepatitis C virus in perspective: Where do we stand. [editorial] JCPSP 1996; 6(4):185-6.
11. Alter Mi, Sampliner RE. Hepatitis C and miles to go before we sleep (editorial) N Eng 3 1989; 1538-40.
12. Datz C, Tramp M, Hans T, et al. The natural course of hepatitis "C" virus infection, 18 years after an epidemic outbreak of non-A, non-B hepatitis in a plasmapheresis center. Gut 1999; 563-76.